
memorandum

Idaho Operations Office

Date: April 28, 2005

Subject: Multi-Source Leachate at Pit 4 and the Subsurface Disposal Area

To: File

A question was raised concerning the applicability of the F039 hazardous waste number (HWN) to CERCLA remediation activities. Upon reviewing applicable EPA guidance on the topic, it became clear that a position was needed for compliant management of waste generated from land disposal units, and specifically waste generated by the Accelerated Retrieval Project (ARP) at the Radioactive Waste Management Complex (RWMC). The attached paper was developed to assist in articulating a basis for not assigning the F039 HWN to the waste.

As concluded in the attached paper, NE-ID finds that the F039 HWN should not be applied to wastes or soil within the formal boundaries of the land disposal area (i.e., within the established lateral boundary and above the basalt layer within the SDA). While it is conceivable that leachate could be found pooled above the basalt and below the waste, the arid climate, the age of the disposal units, and experience to date suggests that this is unlikely. Should leachate be found during waste retrieval it will be collected and dispositioned in a manner that is compliant with applicable or relevant and appropriate requirements (ARARs).



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Attachment

cc:

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Multi-Source Leachate at Pit 4 and the Subsurface Disposal Area

Introduction

Recently, a question was raised concerning the applicability of the F039 hazardous waste number (HWN) to CERCLA remediation activities. Upon reviewing applicable EPA guidance on the topic, it became clear that a position was needed for compliant management of waste generated from land disposal units. This paper has been developed to assist in articulating a basis for not assigning the F039 HWN to the material.

Background

The Subsurface Disposal Area (SDA) located at the RWMC is undergoing CERCLA remediation. As part of that remediation, limited retrieval operations will occur in Pit 4. This activity is being conducted under the CERCLA program as a non-time critical action. During the evaluation for the SDA and individual pits and trenches, the applicability of F039 HWN was questioned. As part of the remediation, TRU waste will be sent to WIPP for disposal.

Pit 4 was used for the disposal of waste from Rocky Flats Environmental Test Site as well as other generators in the 1960's. Under today's RCRA regulations, the waste would be regulated as mixed transuranic and mixed low-level waste. A portion of the SDA (i.e., Pit 4) is to be excavated and "targeted" transuranic waste will be shipped to WIPP for disposal. It is also expected that some mixed low-level waste from Pit 4 will be treated and disposed at the INEEL or other off-site facility.

Pit 4 was originally excavated down to the basalt layer. A layer of soil was placed above the basalt layer prior to waste disposal. After disposal, the waste was later covered with additional soil. The waste within Pit 4 (and the larger SDA) is comprised of more than one listed HWN.

Regulatory Background

On June 1, 1990, EPA promulgated treatment standards for F039 wastes (55 Federal Register 22520). F039 wastes were identified as "multi-source leachate." "Leachate" is defined in 40 CFR 260.10 as "any liquid, including suspended components in the liquid, which has percolated through or drained from hazardous waste." 40 CFR 261.31 provides that "multi-source leachate" is leachate resulting from the disposal of more than one hazardous waste listed in 40 CFR 261, Subpart D. EPA noted that they continued to adhere to the principle that leachate derived from a listed hazardous waste is a hazardous waste, no matter when the listed waste was initially disposed.

Conversations with the EPA hotline, as well as independent research, indicate that there is little guidance concerning F039 waste. However, in a November 14, 1984, letter from the Office of Solid Waste to the Hazardous Waste Division Directors for the EPA Regions, EPA indicated that they intended that "leachate" broadly refer to any liquid that has made "significant contact" with hazardous waste by draining from it or passing through it (FAXBACK 12332). Further, that they were "particularly concerned" about liquid that had passed downward through the wastes in the waste management unit and emerged from the bottom or side of the unit.

Discussion

It is arguable that EPA's intent in establishing the F039 HWN was to regulate a newly generated waste stream (i.e., leachate from land disposal activities). Since the action of land disposal is meant to be permanent, it is hard to envision that EPA would impose a new point of generation for purposes of assigning the F039 HWN on waste within the land disposal area or that is retrieved as part of a remedial action. This approach is supported in the small amount of documentation available from the EPA that addresses the F039 HWN. Specifically, documents and opinions published by the EPA discuss application of the F039 HWN to leachate, run-on mixed with leachate, wastes derived from leachate, and media containing leachate. The guidance applies the same rules to leachate from spill sites containing multiple listed wastes. However, EPA never specifically suggests or requires application of the F039 HWN to landfill contents or spill residues, such as soil.

While the documentation for this approach is not conclusive, it is a reasonable expectation that the generator need only consider the original waste codes assigned to the disposed waste when conducting retrieval actions. Leachate collected from within land-disposal areas (e.g, from lysimeters) and beyond the boundaries of the land disposal area (in this case the lateral boundaries and the underlying basalt formation of the SDA) would be subject to possible F039 HWN assignment. Soil/environmental media outside the boundaries of the land disposal unit would also be subject to possible F039 HWN assignment. Soil located within the boundaries of the landfill, including underburden, which is contaminated, or appears to be contaminated, with waste from breached containers, should be managed as hazardous waste via the contained-in policy, but not as F039.

Additionally, even if the F039 HWN were appropriate for material retrieved from Pit 4 or other areas within the SDA that had been contaminated with multi-source leachate, there is no way to determine what in fact that material is. Clearly, there is no requirement to assume that the multi-source leachate contacted everything within Pit 4, or within the SDA as a whole, especially given the relatively dry conditions that exist at the INEEL. It would follow that absent knowledge that said leachate contacted specific material within the pit or the SDA, it is inappropriate to default to assigning the F039 HWN to such material.

Conclusion

In summary, the F039 HWN should not be applied to wastes or soil within the formal boundaries of a land disposal area (i.e., within the established lateral boundary and above the basalt layer within the SDA). The removed waste is adequately regulated through the application of the pertinent hazardous waste numbers (e.g., F001, F002, etc.) and the addition of the F039 is superfluous. Any leachate collected within the formal boundaries and below the land-disposal unit would be considered F039 for purposes of subsequent management. On a case-by case basis, environmental media located outside the formal boundaries of the land disposal area may be viewed as containing an F039 waste per the contained-in rule.